DOCUMENT RESUME

ED 244 992 TM 840 315

AUTHOR Miller, Leann R.
TITLE Pennsylvania's Public School Students: Caught in the Tide?
PUB DATE Jan 84
NOTE 9p.
PUB TYPE Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; *Educational Trends; Elementary Secondary Education; Longitudinal Studies; Mathematics Achievement; Problem Solving; *Public Schools; *Scores; *State Surveys; Time on Task; Writing Skills
IDENTIFIERS National Assessment of Educational Progress; *Pennsylvania; Pennsylvania Educational Quality Assessment

ABSTRACT

State and national data were used to examine whether Pennsylvania students are part of a national trend of decreasing higher achievers' scores and declining higher order skills. Data from the National Assessment of Educational Progress (NAEP) reports and the Pennsylvania Educational Quality Assessment (EQA) were examined. Analysis indicated that Pennsylvania students' mathematics and writing skills were at the highest point ever. Problem solving skills remained stable. Although the state's students reported more writing activity than students nationally, Pennsylvania schools should consider an increase in the amount of writing required of students to improve their writing performance. A decline in analytic, interpretive, and evaluative skills in literature assessment was found. Recommendations are made to overcome these skill deficiences. Results are analyzed for items measuring student time spent on out-of-school pursuits including reading, television viewing, and homework. The author concludes that, although some school programs in Pennsylvania are not as rigorous or demanding as they could be, the state's educational program is adequate. She suggests more careful study of the needs of each program before implementing changes. (DWH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED244992

PENNSYLVANIA'S PUBLIC SCHOOL STUDENTS:

CAUGHT IN THE TIDE?

Leann R. Miller

January 1984

TM 840 315

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

L. R. Miller

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Leann R. Miller
January 1984

PENNSYLVANIA'S PUBLIC SCHOOL STUDENTS: CAUGHT IN THE TIDE?

Pennsylvania Governor Dick Thornburgh speaks of "Turning the Tide" in Pennsylvania, referencing, of course, the "rising tide of mediocrity" statement from the National Commission on Excellence in Education report, A Nation at Risk. Is Pennsylvania caught in that tide or do we have some educational advantages over the nation as a whole? This article uses state and national data to begin to investigate aspects of that question.

The topics were suggested by findings from the National Assessment of Educational Progress (NAEP) and by recent reports criticizing the status of education in the United States (A Nation at Risk, Making the Grade, Action for Excellence). A NAEP results summary, "National Assessment Findings and Educational Policy Questions" by Rexford Brown of Education Commission of the States, was published several months before the other national reports, but it reflects many of the same concerns.

NAEP tests students at ages 9, 13 and 17 and provides national percent responses. The Pennsylvania data used here is from the Department of Education's Educational Quality Assessment (EQA) program which assesses students in grades 5, 8 and 11 and provides statewide percentages. Some of the information collected in the state program is similar to that collected by NAEP, so some Pennsylvania data can be compared to selected national data. Any comparisons must, of course, be made with caution since items measuring similar concepts are often in different formats. Grade levels and age levels also are often not synonymous.

PASSING GRADES ON THE BASICS, BUT ANOTHER PROBLEM

A 1982 EQA article reported that mean scores in reading comprehension, writing skills and mathematics had not declined from 1978 to 1981, and 1982 and 1983 data also showed no decline, although no significant gains were recorded. Brown insists in the NAEP report that students nationwide showed no score declines in the basic skills of reading and mathematics during the 1970's, and he notes that disadvantaged elementary students were making significant gains.

If we are looking for problem areas, Brown goes on, we can find them at the high end of the scale. For example, the largest declines in NAEP scores occurred in the highest achievement class, that is, among the best students in the assessment. Their scores in inferential comprehension declined four percentage points over the past ten years, and scores in mathematics declined 3 to 4.3 points. A second, and related, observation is that problem-solving - the "higher-order" skills - declined from 2 to 5 percentage points. Brown attributes this to some degree to the concentration of time and resources on the lower achieving students, which paid off for them. In addition, he says, students simply have not been taught and, therefore, have not been practicing these skills.

Are Pennsylvania students caught in this tide of decreasing higher achievers' scores and declining higher-order skills? Some data indicate that they are not. No individual student data have been analyzed, but school data show

that high-achieving schools in the Commonwealth do not appear to be slighting any of their students - they are reaching some of the highest scores ever in the past six years. For example, in 1983 the mean scores at the 95th percentile on the EQA reading comprehension scale were the highest they had ever been at 11th grade and the second highest (but not significantly lower than the highest) at the 5th and 8th grades. Better yet, the 95th percentile mean scores in mathematics and writing skills were the highest ever at all three grade levels.

But Brown also noted the decrease in problem-solving skills. Are the higher-order skills on the way down in Pennsylvania as well as the nation? Two sets of state data can give us some insight into this question. First, the EQA measure of thinking skills, called Information Usage, assesses students' ability to draw inferences, act on consequences and values, and use information wisely. School mean scores on this scale did not change significantly at any of the three grade levels from 1978 to 1983. The second type of data available on this topic are the results of the problem-solving items on the mathematics test. Again, there is relatively good news. Of the 13 problem-solving items at grade 5, the percent correct on ten of them either did not change or was higher in 1983 than in 1978. At grade 8, 18 items are problem-solving; on only six were the percentages correct lower in 1983 than in 1978. The 11th grade test consists of over one-third problem-solving items (23 of 60). Since 1978, 13 of these went up or stayed the same while ten decreased in percent of students choosing the correct response. Very few of the percentage changes were significant however, so it might be said that problem-solving skills remained stable in Pennsylvania over the past six years, with some indication that 5th graders are doing better on such items than is the national trend.

TABLE 1
EQA Mathematics Problem-Solving Items
Number of Items Showing
Increases, No Change and Decreases

1978 to 1983

	Increase	No Change	Decrease
Grade 5	8	2	3
Grade 8	7	5	6
Grade 11	5	8	10

THE WRITING ISSUE

Even before the national reports flooded the media in the summer of 1983, complaints had been heard, from colleges and businesses in particular, about the terrible condition of students' writing. NAEP figures from the 1978-79 writing assessment confirm that writing skills had declined since the 1969-70 period, especially in the areas of persuasive writing (for 13- and 17-year-olds) and descriptive essays (for 13-year-olds). NAEP assesses writing through actual writing tasks - essays, letters, etc. - and bases its analyses on the results of holistic and primary trait scoring of the products. Since EQA lacks

the financial resources for conducting a writing sample, it must depend on an objective multiple-choice test to measure writing skills. Therefore, data corresponding to the NAEP figures above are not available from EQA. However, NAEP found in the 1969 to 1979 essays that the percentage of mechanical errors, such as sentence fragments and capitalization and punctuation errors, did not change much over the decade. EQA mean scores at all three grade levels on items measuring those same concepts rose slightly between 1978 and 1983, so it would appear that Pennsylvania students understand the basics of the subject, such as capitalization, punctuation, sentence combining and appropriate writing style. It seems that they are not applying those skills, however, in actual writing instruction and practice. NAEP says that only about one-third of the 17-year-olds report they are doing some writing - at least one paper a week. EQA data corresponding to this is available only for 1983, and it looks somewhat more promising than NAEP: 43 percent of the 1,500 11th graders sampled report writing a paragraph or more as a school assignment at least once a week (15 percent said they wrote at least once a day); 45 percent of 5th graders and 37 percent of 8th graders also chose the "about once a week" response to a frequency of writing question.

Simply writing a paragraph or two is no guarantee of writing quality, and the students were not asked by EQA whether writing instruction accompanied these assigned paragraphs. However, NAEP does ask about instruction and, in 1979, only seven percent of senior high students reported they were receiving comprehensive writing training in such skills as pre-writing practice, revising and editing and getting good feedback from their teachers. Let's hope these percentages have risen since then, since practice in writing seems to be a national need. In fact, Brown writes that findings "suggest that very little writing is going on in the schools and there is very little comprehensive writing instruction available. It is reasonable to suppose that improved training of teachers and an increase in the amount of writing required of students would bring about a noticeable improvement in writing performance." In spite of the fact that the Commonwealth's students report more writing activity than students nationally, it could not hurt our schools to take Brown's advice.

A different perspective on the writing issue comes from an additional 1983 EQA item. This item asked students how they felt about the quality of their writing. Asked to complete the sentence, "When I write something, I think what I write is:" (1) very good, (2) good, (3) satisfactory, (4) fair, or (5) poor, over half to two-thirds of the students chose the "very good" or "good" responses. Fifth graders were most positive - 66 percent reported very good or good feelings; 60 percent of 11th graders chose these two responses; and 56 percent of 8th graders thought well of their writing. Only 10 to 12 percent of all students chose the "fair" or "poor" responses. This 10 to 12 percent could be contrasted with the NAEP finding that 20 to 25 percent of students at all three age levels are fearful of writing and avoid it whenever they can. Whether teachers are as satisfied with students' writing as the students themselves are cannot be determined through these results, but most students in Pennsylvania do not appear to be unhappy with their writing products or as fearful of writing as national data indicate.

Another disturbing NAEP finding was the decline in analytic, interpretative and evaluative skills in the literature assessment. Brown reports such statistics as (1) only five to ten percent of 17-year-olds showed real strength in

analyzing a literary work and explaining their responses in writing, (2) 17-year-olds also experienced a ten percent decline in the adequacy of substantiations of their opinions of the mood of a literary work and (3) there was a strong tendency among students, when asked to analyze a work, to write more personalized but undeveloped, unsupported and more judgmental responses than in the past. Experts who have interpreted these results have made recommendations for overcoming some of the deficiencies:

1. Make students write about what they read.

2. Encourage students to make more than quick, superficial responses to their reading.

3. Teachers should not do all the hard thinking for students. Let them do it. Some studies suggest that many writing teachers make the hard organizational and structural decisions for their students, leaving the students to "fill in the blanks."

Once again, NAEP has the luxury of being able to ask students to write a response to the literature questions so EQA has no corresponding data, but it surely would not be a mistake for language arts teachers in Pennsylvania to follow the above experts' advice. Several years ago, the introduction of Pennsylvania's Comprehensive Communication Arts Plan (PCRP) led to increased attention to "responding to literature" (one of its four critical experiences), but much more needs to be done, especially in combining the "responding to literature" concepts with writing practice.

TIME ON TASK?

In addition to achievement data, both NAEP and EQA collect information on conditions which influence achievement. Several of NAEP's findings here have some corresponding EQA data. In particular, results are analyzed for three items measuring student time spent on various out-of-school pursuits.

1. Time spent on reading: NAEP asks students how much time they spend reading on their own. Most 17-year-olds in their sample reported doing such activity for less than one hour a day. EQA data for 1983 reveals that 84% of the comparable group of 11th graders reads at home one hour or less each day, so state data do not appear to differ from national figures. Eighty-two percent of 8th graders and 81% of 5th graders report the same amount of leisure reading activity. Reasons for this lack of leisure reading could stem from the fact that students are doing assigned reading or homework and, therefore, do not have time to pursue self-directed reading activities. Of course, time spent watching television must also be considered.

2. Time spent on TV watching: NAEP's results on the TV time question find that half the 13-year-olds and one-third of the 17-year-olds watch three or more hours of TV a night. Pennsylvania students in 1983 said they watch <u>more</u> TV than the national group. The following table reveals that 67% of 5th graders watch three or more hours of TV a night while 64% of 8th graders and 43% of 11th graders watch that much. These percentages are <u>down</u> slightly from 1978.

TABLE 2
Student Time Spent Watching TV
on School Nights
EQA 1983 Percentages

	Grade 5	Grade 8	Grade 11
About 5 hours (or more)	27	23	11
About 4 hours	18	18	12
About 3 hours	22	23	20
About 2 hours	19	21	26
About 1 hour (or less)	13	15	30

EQA data have always shown a negative correlation between TV watching time and scores on its measures of basic skills. That is, as amounts of TV time increased, scores on the reading, writing skills and mathematics tests declined. Perhaps Pennsylvania educators need to stress even more the alternatives to TV - good leisure reading habits, work (not games) on home computers, exercise, sports, music and, maybe, more homework.

3. Time spent on homework: How much time are students spending on homework? Has their homework time increased over the past few years? A Nation at Risk strongly recommends increasing the amount of homework assigned to students. NAEP reports that "most teenagers (17-year-olds) do no homework or less than one hour per night." State data show more positive results.

TABLE 3
Student Time Spent on Homework
on School Nights
EQA 1978 and 1983 Percentages

	Grade 5		Grade 8		Grade 11	
	'78	'83	'78	'83	'78	'83
About 3 hours or more	7	7	4	5	6	8
About 2 hours	18	19	16	19	19	22
About 1 hour	40	41	38	39	30	31
Less than 1 hour	31	30	32	28	29	26
None	3	2	10	7	17	13

Just over one-third of the Commonwealth's 11th graders report doing no homework or less than one hour per night (but that is down significantly from almost one-half the sample in 1978) and the figures are slightly better for 5th and 8th graders. Perhaps Pennsylvania students are assigned more homework than their national peer groups

and, in fact, the EQA figures may not tell the whole story. A caution is advised when using the EQA homework data: the item asks only how much time is spent on homework at home. Many students may have time at school to do homework assignments, either in class or in study halls. The EQA data, therefore, should not be used as a measure of the total amount of time spent on assigned homework. That total may be greater.

In 1983, EQA asked several different experimental questions on homework, and some of the results were interesting. Whether they can be used for predicting achievement remains to be determined. Two samples: over half of the approximately 1,500 responding 5th grade students said they seldom do homework while watching television but only 40% of the 8th and 11th graders chose that response. In fact, over a quarter of the 11th graders said they do homework while watching television almost all or most of the time and 20% of the fifth and 8th graders said the same. Another item revealed an important study habit: only 5% of 5th graders said they almost always put off doing their homework as long as possible, but 13% of the 8th graders and 18% of 11th graders admitted that practice.

THE GENERAL COURSE

Another concern raised by The Nation at Risk report (although not addressed by the Brown paper) was that secondary school curricula had been "diluted" and that students had "migrated" from strong vocational and academic programs to general track courses in large numbers. The proportion of students taking a general course, it said, had increased from 12% in 1964 to 42% in 1979. In 1983 EQA asked 1,500 11th graders, "Which one of the following best describes your present high school program?" The results seen in the table below show that the Commonwealth's secondary students are reporting only half as much participation (21%) in general courses as the national figures show.

TABLE 4
11th Graders Reporting Course Participation
EQA 1983

"Which one of the following best describes your present high school program?"	Percent
General	21
Academic or college preparatory	46
Vocational or technical	14
Business or commercial	13
Don't know	9

SUMMARY

There is no doubt that some school programs in Pennsylvania are not as demanding or rigorous as they could be and that some students in the Commonwealth have been caught in a national tide of declining amounts and quality of work. In general, however, we appear to be holding our own. There are differences between our programs and those of the rest of the nation, so we should look carefully at the real needs of each program before making changes. Only then can we be certain that we are making valid educational improvements rather than simply reacting to a generalized criticism of the total education system.

Reference

Brown, Rexford. "National Assessment Findings and Educational Policy Options." Denver: Education Commission of the States, 1982.